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Lycosid Spiders of Japan XI. The Genus *Pardosa* C. L. KOCH ——*paludicola*-group——

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田中穂積[1]: 日本のコモリグモ XI. オオアシコモリグモ属 ——*paludicola* 種群——

Abstract Present paper, the eleventh in a series of "Lycosid Spiders of Japan," deals with three species of the *paludicola*-group of the genus *Pardosa*, *P. astrigera*, *suwai* and *paramushirensis* found in Japan. These three species are redescribed in detail and illustrated, with notes on their biology. Characteristics of the *paludicola*-group, and a key to Japanese species of this group are also given.

The ***paludicola***-group

This group is composed of the species which have a very high and narrow septum in epigynum and a robust and tapering median apophysis in male palp. In Japan, three species, *astrigera* L. KOCH, *suwai* TANAKA, and *paramushirensis* (NAKATSUDI), belong to this group.

Key to Japanese species

1. AME[2] almost equal in size to ALE[2]……………………*paramushirensis.*
— AME larger than ALE ……………………………………………2
2. Legs with distinct annulations in female. In the male, tibia and metatarsus I with many long straight hairs. Male palp without tarsal claw….*astrigera.*
— Legs without annulations in female. In the male, tibia and metatarsus I without such hairs. Male palp with one tarsal claw…………………*suwai.*

Pardosa astrigera L. KOCH, 1878

[Japanese name: Uzuki-komorigumo]
(Figs. 1–4)

Pardosa astrigera L. KOCH, 1878, p. 775, pl. 16, figs. 37–38; CHAMBERLIN, 1924, p. 32; FOX, 1935, p. 456; WANG & ZHU, 1963, p. 434; TANAKA, 1978, p. 12, fig. 2; SONG, YU & SHANG, 1981, p. 85; HU, 1983, p. 136, fig. 120; ZHU, 1983, p. 72; HU, 1984, p. 234; GUO, 1985, p. 119, fig. 2 (58); YAGINUMA, 1986, p. 162, fig. 90 (2); HU & LI, 1987, p. 349; SONG, 1987, p. 230, fig. 186; ZHANG,

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[2] Abbreviations: AME, anterior median eye, ALE, anterior lateral eye.

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1987, p. 151, fig. 126; YU & SONG, 1988, p. 115; CHIKUNI, 1989, p. 245; PLATNICK, 1989, p. 376; HU & WU, 1989, p. 208, fig. 173 (1–3); YAGINUMA, 1990, p. 266; FENG, 1990, p. 153, fig. 128 (1–4), pl. 128; CHEN & ZHANG, 1991, p. 199, fig. 198; ZHAO, 1993, p. 77, fig. 33.

Lycosa astrigera: BÖSENBERG & STRAND, 1906, p. 322, pl. 7, fig. 98, pl. 13, figs. 322, 327; STRAND, 1916, p. 86; SAITO, 1941, p. 87, fig. 97.

Lycosa T-insignita BÖSENBERG et STRAND, 1906, p. 324, pl. 8, fig. 109, pl. 13, figs. 337; SAITO, 1934, p. 357; 1936, p. 63, pl. 30; 1937, p. 153; 1939, p. 77; 1941, p. 106, fig. 121; 1959, p. 58, figs. 5 (11), 13 (4), pl. 5, fig. 42, pl. 6, fig. 42.

Tarentula phila DÖNITZ et STRAND, 1906, p. 389, pl. 8, fig. 105, **n. syn.**

Lycosa cinereofusca DÖNITZ et STRAND, 1906, p. 393, pl. 7, fig. 99, **n. syn.**; SAITO, 1941, p. 92, fig. 102.

Tarentula sagibia STRAND, 1916, p. 85, **n. syn.**

Pirata aomorensis SAITO, 1939, p. 71, fig. 9 (3), pl. 1, fig. 11, **n. syn.**; 1941, p. 121, fig. 137; 1959, p. 59, fig. 7 (7), pl. 5, fig. 46, pl. 6, fig. 46; BONNET, 1958, p. 3656.

Lycosa phila: SAITO, 1941, p. 112, fig. 127; ROEWER, 1954, p. 269; BONNET, 1956, p. 2658; YAGINUMA, 1970, p. 666; 1977, p. 393; 1990, p. 266.

Pardosa cinereofusca: ROEWER, 1954, p. 161; BONNET, 1958, p. 3363; YAGINUMA, 1970, p. 666; 1977, p. 394; 1990, p. 266.

Pardosa sagibia: ROEWER, 1954, p. 172; BONNET, 1958, p. 3420; YAGINUMA, 1978, p. 15; 1990, p. 267.

Pardosa T-insignita: ROEWER, 1954, p. 174; BONNET, 1958, p. 3426; WANG & ZHU, 1963, p. 433; YAGINUMA, 1970, p. 667; 1977, p. 394; TANAKA, 1978, p. 12; SONG *et al.*, 1978, p. 3; WANG, 1981, p. 123, fig. 63; Shanxi Committee for Agriculture Division, 1983, p. 140, fig. 124; ZHU, 1983, p. 74; PAIK & KIM, 1985, p. 69; GUO, 1985, p. 123, fig. 2 (61); ZHANG, 1987, p. 156, fig. 132; YAGINUMA, 1990, p. 267.

Avicosa aomorensis: ROEWER, 1954, p. 234.

Pardosa aomorensis: YAGINUMA, 1970, p. 666; 1977, p. 394; 1990, p. 266.

Pardosa t-insignita: PLATNICK, 1989, p. 383.

Female

Specimen examined for description. Omine-san, Nara Prefecture, Japan, 7. VI. 1970 (H. TANAKA).

Measurement (mm). Total length 9.00. Carpace length 4.00, width 3.00. Abdomen length 5.00, width 3.10. Legs and palp as in Table 1.

Carapace dark reddish brown, with a light yellow-brown median band which is dilated in front and lateral bands. AME larger than ALE; AME separated from each other by length being smaller than the diameter of ALE, and from ALE by length being smaller than half the diameter of ALE. Clypeus reddish yellow-brown, about 1.5 times the diameter of AME. Chelicerae, maxillae and labium dark reddish yellow-brown. Sternum reddish yellow-brown, with a light yellow median region in the anterior half. Abdomen dark brown in dorsal surface, with five

Table 1. Length of legs and palp of 1 ♀ of *Pardosa astrigera* (in mm).

Leg	Femur	Patella and tibia	Metatarsus	Tarsus	Total
I	3.00	3.70	2.30	1.70	10.70
II	2.70	3.20	2.30	1.70	9.90
III	2.80	3.30	2.60	2.20	10.90
IV	3.90	4.60	4.70	1.60	14.80
Palp	1.30	1.40	—	1.30	4.00

transverse light yellow markings; a lanceolate median mark reddish brown, distinct; sides blackish grey, with many yellow spots; ventral surface light yellow-brown, with dark brown median region. Legs reddish brown, with distinct annulations on femora, tibiae and metatarsi I–III, and femur and tibia IV. Palp reddish brown, with annulations on femur. Epigynum with a long and narrow septum (Fig. 1); a pair of spermathecae consisting of long and narrow seminal ducts (Fig. 2).

Male

Specimen examined for description. Omine-san, Nara Prefecture, Japan, 7. VI. 1970 (H. Tanaka).

Measurements (mm). Total length 6.80. Carapace length 3.50, width 2.70. Abdomen length 3.30, width 2.20. Legs and palp as in Table 2.

Similar to the female, but differs from it in the following points. Head region almost black. Clypeus and chelicerae reddish brown. Sternum unicolorous, dark reddish brown. Abdomen almost black in dorsal and lateral surfaces, with markings clearer than those of the female; ventral surface blackish grey, with many black verruciform processes. Legs dark reddish brown in dorsal and lateral surfaces, with dark brown markings; ventral surface uniformly reddish brown, from patellae to tarsi I–IV; the rest unicolorous, black-brown; tibia and metatarsus I with many long straight hairs. Palp dark reddish brown, with annulations on femur; tarsal organs (Figs. 3–4) with a C-shaped median apophysis; tarsus with no claw.

Variation (mm). Total length ♀ 5.60–9.85, ♂ 4.90–8.65. Carapace length ♀ 2.90–4.25, ♂ 2.60–4.55; width ♀ 2.20–3.55, ♂ 2.00–3.35. Abdomen length ♀ 2.60–6.10, ♂ 2.30–4.10; width ♀ 2.00–4.00, ♂ 1.40–2.70. The color varies from light yellow to dark brown or black.

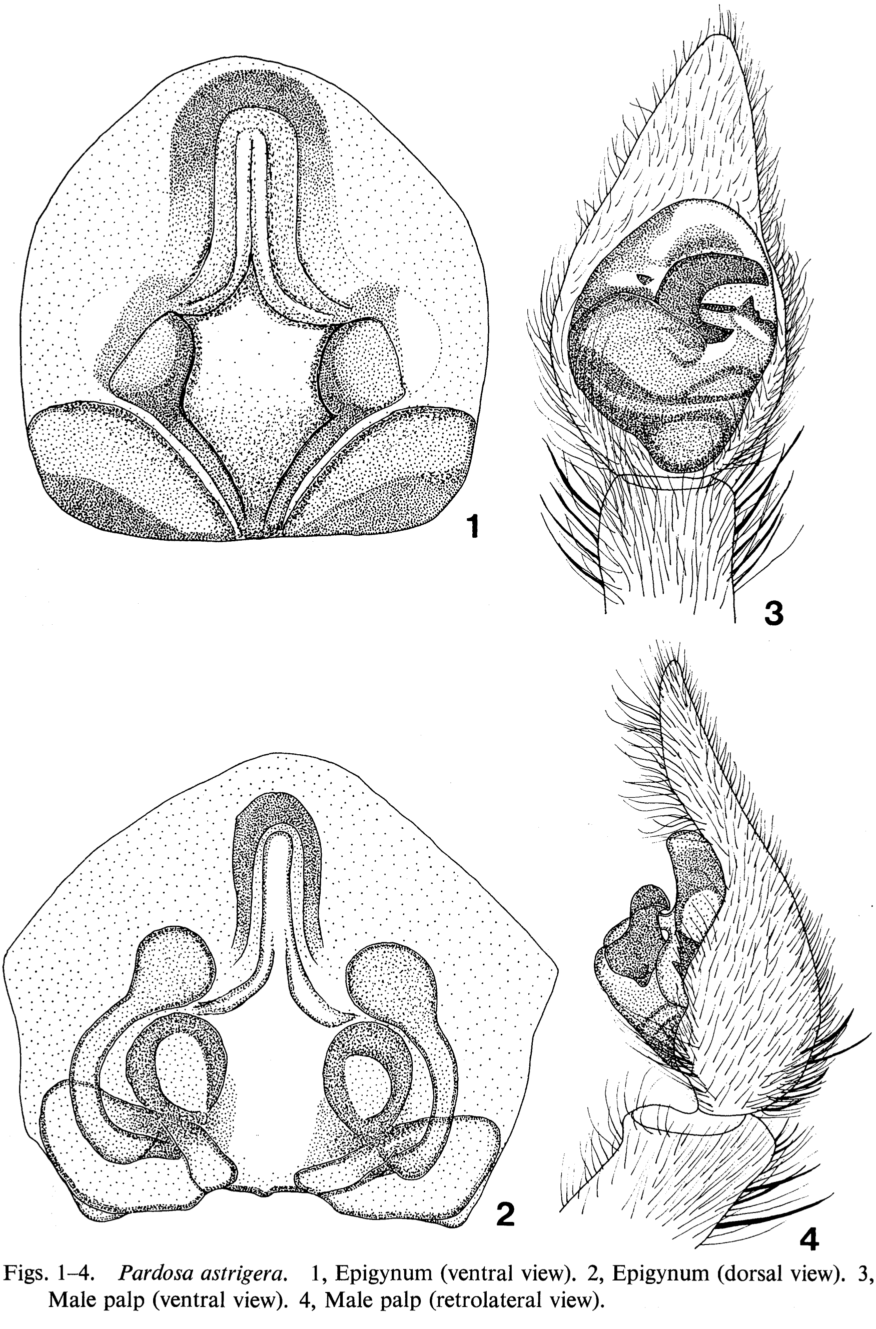
Materials examined. Hokkaido: — 1♀ (adult), 2♂ (subadult) & 4 (youngs) (syntypes of *astrigera*, ZMB-2329), Yeso (A. Roretz); 8♀, 3♂, Momoiwa, Rebun Is., 17. VII. 1971 (H. Tanaka); 1♀, Kobuka, Rebun Is., 17. VII. 1971 (H. Tanaka); 1♀, same locality, 23. VI. 1982 (E. Nishida); 20♀, 5♂, Rishiriyama, Rishiri Is., 21. VII. 1971 (H. Tanaka); 20♀, Oshidomari, Rishiri Is., 20. VI. 1982 (E. Nishida); 20♀, 10♂, Sounkyo, Kamikawa-cho, 8–9. VII. 1971 (H. Tanaka); 2♀, 1♂, same locality, 17. VII. 1973 (H. Tanaka); 1♂, same locality, IX. 1979 (N. Yasuda); 1♀, same locality, 3. VII. 1980 (N. Yasuda); 3♀, 2♂, Ishikarigawa, Kamikawa-cho, VI. 1976 (N. Yasuda); 2♀, 2♂, Kyoshin, Kamikawa-cho, 13. V. 1978 (N. Yasuda); 12♀, Kawayu, 14. VI. 1982 (E. Nishida); 40♀, Nukabira, 17. VI. 1982 (E. Nishida); 1♀, Horoka, 25. VII. 1974 (S. Tsukaguchi); 2♂, Koshunai, Bihoro, 25. V. 1975 (F. Komai); 1♀, Ashiyoro, 18. VII. 1958 (Y. Miyatake); 8♀, 3♂, Sapporo, 23.

Table 2. Length of legs and palp of 1♂ of *Pardosa astrigera* (in mm).

Leg	Femur	Patella and tibia	Metatarsus	Tarsus	Total
I	2.60	3.20	2.20	1.50	9.50
II	2.50	3.00	2.20	1.10	8.80
III	2.60	3.00	2.20	1.10	8.90
IV	3.00	3.80	3.70	1.80	12.30
Palp	1.30	1.10	—	1.50	3.90

VII. 1971 (H. Tanaka); 4♀, 1♂, Jozankei, 10. VII. 1972 (Y. Kuwana); 7♀, 4♂, Asahikawa, 27. V. 1975 (F. Komai); 9♀, 1♂, Onumakoyen, 24. VII. 1971 (H. Tanaka); 2♀, same locality, 11. VII. 1973 (H. Tanaka). Honshu: — 1♀, Kawase, Aomori Pref., 12. X. 1974 (Y. Takahashi); 1♀, Kameyama, Aomori Pref., 29. VIII. 1977 (Y. Takahashi); 1♀, Hirosaki-city, Aomori Pref., 29. V. 1982 (K. Tanaka); 1♀, same locality, 6. VII. 1982 (K. Tanaka); 1♀, Matsukidaira, Aomori Pref., 7. VII. 1982 (K. Tanaka); 10♀, Takizawa, Iwate Pref., 25. VI. 1973 (F. Komai); 1♂, Zao, Yamagata Pref., 11. VIII. 1976 (H. Yoshida); 2♀, Yuzawa, Niigata Pref., 19–20. VII. 1972 (H. Tanaka); 1♀, Fujioka-cho, Tochigi Pref., 1. V. 1979 (H. Saito); 1♂, Ido, Kanuma-city, 13. V. 1979 (H. Saito); 2♀, Kazawa, Gunma Pref., 8–9. VIII. 1970 (F. Komai); 2♀, Shimizu-cho, Numata-city, Gunma Pref., 23. VI. 1984 (H. Tanaka); 2♀, 1♂, Marunuma, Tone-gun, Gunma Pref., 24. VI. 1984 (H. Tanaka); 1♂, Usuitouge, Usui-gun, Gunma Pref., 1. VII. 1984 (T. Hayashi); 1♀, Ogoya, Nagano Pref., 29. VII. 1963 (Y. Tarumi); 11♀, 10♂, Minotoguchi, Nagano Pref., 1. VIII. 1972 (H. Tanaka); 3♀, same locality, 29. VI. 1973 (H. Tanaka); 1♂, Nyugasayama, Nagano Pref., 31. VII. 1969 (Y. Tarumi); 13♀, 8♂, same locality, 26–27. VII. 1972 (H. Tanaka); 4♀, same locality, 12. VIII. 1975 (S. Tsukaguchi); 11♀, Todai, Nagano Pref., 22. VII. 1972 (H. Tanaka); 1♀, same locality, 4. VII. 1975 (F. Komai); 2♀, 2♂, Ina, Nagano Pref., 7. VII. 1972 (H. Tanaka); 5♀, 4♂, same locality, 21. VII. 1972 (H. Tanaka); 3♀, same locality, 28. VI. 1973 (H. Tanaka); 13♀, Otaki, Nagano Pref., 6. VII. 1972 (H. Tanaka); 7♀, same locality, 10. VII. 1982 (E. Nishida); 1♀, Sugadaira-kogen, Nagano Pref., 28. VII. 1980 (A. Tanikawa); 4♀, 1♂, Hikagedaira, Gifu Pref., 10. V. 1980 (S. Hashimoto); 1♂, Shiroyama, Tokyo, 3. III. 1965 (S. Matsumoto); 2♀, 1♂, Kasagi, Kyoto Pref., 1. IV. 1965 (Y. Tarumi); 1♀, Ashu, Kyoto Pref., 9. VI. 1969 (H. Tanaka); 2♀, Sasari, Kyoto Pref., 10. VI. 1969 (H. Tanaka); 4♀, Takeno-cho, Kyoto Pref., 7. VIII. 1975 (K. Ueda); 1♀, Iga-cho, Ayama-gun, Mie Pref., 2. IV. 1980 (Y. Nishikawa); 1♀, 1♂, Nijozan, Nara Pref., 13. IV. 1969 (Y. Tarumi); 3♀, 1♂, Komyoike, Osaka Pref., 20. IV. 1969 (H. Tanaka); 1♂, Iwawakisan, Osaka Pref., 19. IV. 1970 (H. Tanaka); 1♀, Kainan, Wakayama Pref., 16. X. 1977 (H. Tanaka); 2♀, Hikami, Hyogo Pref., 13. V. 1966 (H. Tanaka); 2♀, 1♂, same locality, 17. V. 1970 (H. Tanaka); 4♀, 3♂, Saji, Hyogo Pref., 17. V. 1970 (H. Tanaka); 1♀, Sugahara, Hyogo Pref., 14. VII. 1970 (F. Komai); 1♀, Hyonosen, Hyogo Pref., 21. V. 1972 (T. Arita); 3♀, 1♂, same locality, 23. V. 1976 (K. Ueda); 1♀, 1♂, Inoko, Tottori Pref., 24. IV. 1970 (T. Arita); 1♀, Daisen, Tottori Pref., 25. VII. 1968 (C. Okuma). Shikoku: — 20♀, 10♂, Muroto-misaki, Kochi Pref., 29. V. 1970 (H. Tanaka); 20♀, 10♂, Takahama, Ehime Pref., 25. V. 1970 (H. Tanaka); 20♀, 9♂, Tarumi, Ehime Pref., 25. V. 1970 (H. Tanaka). Kyushu: —2♀, Aburayama, Fukuoka Pref., 19. IV. 1958 (C. Okuma); 1♂, Hikosan, Fukuoka Pref., 20. VIII. 1958 (S. Miyamoto); 25♀, 10♂, same locality, 20–24. V. 1971 (H. Tanaka); 14♀ & 1♂ (syntypes of *T-insignita*, SMF-8544), Saga Pref. (W. Dönitz); 3♀, 1♂, Oyanojima Is., Amakusa, Nagasaki Pref., 29. VII. 1981 (T. Irie); 2♀, 3♂, Minato, Tsushima Is., Nagasaki Pref., 30. IV. 1973 (K. Ueda); 3♀, 1♂, Minemura, Tsushima Is., Nagasaki Pref., 1. V. 1973 (K. Ueda); 15♀, 5♂, Jigokuonsen, Kumamoto Pref., 1. VIII. 1971 (K. Yamamoto); 9♀, 2♂, Aso-cho, Aso-gun, Kumamoto Pref., 27. VIII. 1983 (H. Tanaka); 10♀, 2♂, Kirishimayama, Kagoshima Pref., 27. V. 1971 (H. Tanaka); 3♀, 1♂, Korimoto, Kagoshima Pref., 25. V.

1971 (H. Tanaka); 5♀, 5♂, Eboshidake, Kagoshima Pref., 1. VI. 1971 (H. Tanaka); 15♀, 5♂, Shimadomari, Kagoshima Pref., 29. V. 1971 (H. Tanaka); 9♀, 2♂, Miyanoura, Yakushima Is., Kagoshima Pref., 18. V. 1973 (H. Tanaka); 1♀,



Figs. 1–4. *Pardosa astrigera.* 1, Epigynum (ventral view). 2, Epigynum (dorsal view). 3, Male palp (ventral view). 4, Male palp (retrolateral view).

Anbo, Yakushima Is., Kagoshima Pref., 18. V. 1973 (H. TANAKA); 5♀, 3♂, Kosugidani, Yakushima Is., Kagoshima Pref., 20. V. 1973 (H. TANAKA).

Distribution. Japan (Hokkaido, Honshu, Shikoku and Kyushu), Korea and China.

Biological notes. This is a common species in Japan. It is particularly abundant on dry, open grounds or fields. Mature spiders and the egg sacs are found from April to early in September. The number of eggs in one egg sac varies from 40 to 140.

Remarks. This species is allied to *P. unifera* SCHENKEL from China, but is distinguished from the latter by the continuous yellow-brown lateral bands on the carapace and by the longer and narrower septum of the epigynum (Fig. 1). This species also resembles *P. suwai* TANAKA from Japan (Hokkaido), but is easily distinguished from the latter by the presence of the annulations on the female legs and by the absence of the tarsal claw on the male palp, as indicated in the key.

In 1978, I wrote on distinction between *P. astrigera* and *P. T-insignita* based on examination of the syntypes of *T-insignita* and treated them as different species. Afterward, I again examined the syntypes of *T-insignita.* As a result of examination of them, I think that the distinction between *P. astrigera* and *P. T-insignita* is variation in one species. I recognize that *P. T-insignita* is identical with *astrigera.*

I treat here following four species as junior synonyms of *astrigera*: *L. cinereofusca* DÖNITZ et STRAND, *Tarentula phila* DÖNITZ et STRAND, *T. sagibia* STRAND, and *Pirata aomorensis* SAITO. Although I have been unable to examine the specimens of these four species, I consider them to be conspecific with *astrigera*, judging from the original descriptions. The type-specimens of *cinereofusca*, *phila* and *sagibia* have probably been lost, and the type-specimens of *aomorensis* was lost during the World War II.

Pardosa suwai TANAKA

[Japanese name: Numachi-komorigumo]
(Figs. 5–8)

Pardosa suwai TANAKA, 1985, p. 83, figs. 49–52; YAGINUMA, 1986, p. 165; PLATNICK 1989, p. 383; YAGINUMA, 1990, p. 267.

Female

Specimen examined for description. The holotype.

Measurements (mm). Total length 6.70. Carapace length 3.30, width 2.70.

Table 3. Length of legs and palp of 1 ♀ of *Pardosa suwai* (in mm).

Leg	Femur	Patella and tibia	Metatarsus	Tarsus	Total
I	2.50	3.10	1.80	1.40	8.80
II	2.40	3.00	1.80	1.40	8.60
III	2.50	2.80	2.20	1.30	8.80
IV	3.20	3.70	3.70	1.80	12.40
Palp	1.30	1.40	—	1.00	3.70

Abdomen length 3.40, width 2.50. Legs and palp as in Table 3.

Carapace dark reddish brown, with light reddish brown median and lateral bands, and without line along the margin; light reddish brown median band broadly dilated in front; light reddish brown lateral bands separated from margins by dark brown bands. AME larger than ALE; AME separated from each other by about the diameter of ALE, and from ALE by length being smaller than half the diameter of ALE. Clypeus dark reddish brown, larger than the diameter of AME. Chelicerae dark reddish brown. Maxillae reddish brown. Labium and sternum dark reddish brown, with light yellowish brown median band. Abdomen dark reddish brown in dorsal and lateral surfaces; a lanceolate median mark faint; ventral surface reddish brown, with distinct light yellow V-shaped line. Legs and palp reddish brown, with black markings on femora I–IV and palp. Epigynum with a long and narrow septum which is five-cornered in posterior parts (Fig. 5); a pair of spermathecae with long and narrow seminal ducts (Fig. 6).

Male

Specimen examined for description. Paratype No. 1.

Measurements (mm). Total length 7.40. Carapace length 3.60, width 2.70. Abdomen length 3.80, width 2.10. Legs and palp as in Table 4.

Differences from the female holotype are as follows. Carapace dark brown, with faint median and lateral bands. Chelicerae, maxillae, labium and sternum dark brown. Legs light yellow-brown in ventral surface of coxae and trochanters I–IV, and dark brown in dorsal surfaces of coxae and trochanters I–IV, and dark reddish brown in other segments I–IV; femora I–IV with many long straight hairs. Abdomen with many long straight hairs in all surfaces; ventral surface dark reddish brown. Palp dark brown, with many white pubescences on dorsal tibia; tarsal organs (Figs. 7–8) with a robust C-shaped median apophysis; tarsus with one claw.

Variation (mm). Total length ♀ 6.35–8.80, ♂ 6.40–8.15. Carapace length ♀ 3.10–3.65, ♂ 3.30–4.25; width ♀ 2.50–2.80, ♂ 2.60–2.75. Abdomen length ♀ 3.25–5.20, ♂ 3.10–3.90; width ♀ 2.20–3.60, ♂ 1.75–2.30. In general, the male specimens are darker than the females.

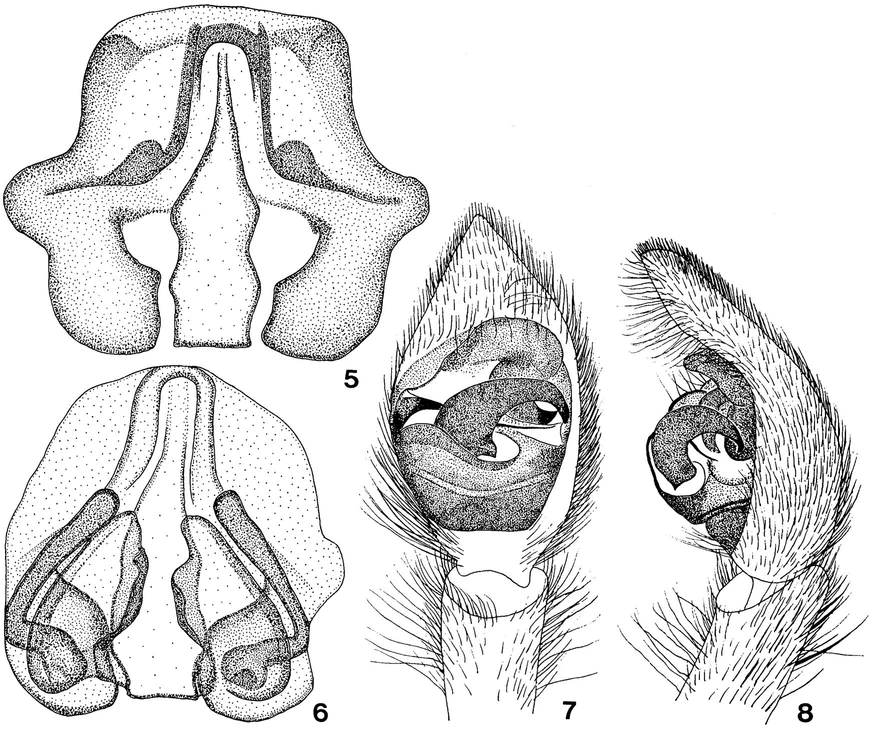
Materials examined. Hokkaido: — 1♀ (holotype) & 3♀ (paratypes), Tomakomai, 15. VII. 1975 (M. SUWA); 20♀ (paratypes), same locality, 29. IV. 1978 (M. SUWA); 10♀ & 14♂ (paratype No. 1 and other paratypes), same locality, 27. V. 1979 (M. SUWA); 1♀ (paratype), Kushiro, 3. VI. 1978 (S.-I. UÉNO).

Distribution. Japan (Hokkaido).

Biological notes. This species lives in moist places around the lakes or wet

Table 4. Length of legs and palp of 1♂ of *Pardosa suwai* (in mm).

Leg	Femur	Patella and tibia	Metatarsus	Tarsus	Total
I	2.80	3.80	2.40	1.60	10.60
II	2.80	3.40	2.40	1.60	10.20
III	2.70	3.20	2.70	1.50	10.10
IV	3.40	4.20	4.20	2.00	13.80
Palp	1.40	1.20	—	1.50	4.10



Figs. 5–8. *Pardosa suwai.* 5, Epigynum (ventral view). 6, Epigynum (dorsal view). 7, Male palp (ventral view). 8, Male palp (retrolateral view).

meadows. Mature males have been collected in May, and females from May to July. Formation of egg sacs is found from late in May to late in June. The number of eggs is 80 in one egg sac on the average.

Remarks. This species is allied to *P. uncifera* SCHENKEL from China in the shape of the epigynum and male palp, but it can be distinguished from the latter by the presence of distinct light reddish brown lateral bands on the female carapace. This species also resembles *P. astrigera* L. KOCH, occurring in Japan, Korea, and China; the discriminating characters are noted in the remarks of the latter species.

Pardosa paramushirensis (NAKATSUDI, 1937)

[Japanese name: Takane-komorigumo]

(Figs. 9–12)

Lycosa paramushirensis NAKATSUDI, 1937, p. 24, pl. 1 (6); SAITO, 1941, p. 102, fig. 115.

Pardosa paramushirensis: YAGINUMA, 1970, p. 667; 1977, p. 394; BRIGNOLI, 1983, p. 453; YAGINUMA, 1986, p. 165, fig. 90 (9); CHIKUNI, 1989, p. 246; PLATNICK, 1989, p. 381; YAGINUMA, 1990, p. 226.

Female

Specimen examined for description. Asahidake, Hokkaido, Japan, 16. VII.

Table 5. Length of legs and palp of 1 ♀ of *Pardosa paramushirensis* (in mm).

Leg	Femur	Patella and tibia	Metatarsus	Tarsus	Total
I	2.40	3.10	2.00	1.40	8.90
II	2.40	3.00	2.00	1.40	8.80
III	2.30	2.80	2.30	1.30	8.70
IV	3.10	3.60	3.80	1.80	12.30
Palp	1.30	1.40	—	1.10	3.80

1973 (H. TANAKA).

Measurements (mm). Total length 7.80. Carapace length 3.00, width 2.40. Abdomen length 4.80, width 3.20. Legs and palp as in Table 5.

Carapace reddish brown, with a yellowish brown median band, which is broadly dilated in front. AE almost equal in diameter; AME separated from each other by length being smaller than the diameter of AME, and from ALE by length being smaller than the diameter of AME. Clypeus yellow-brown, larger than the diameter of AME. Chelicerae reddish brown. Maxillae and labium greyish yellow-brown. Sternum dark yellow-brown. Abdomen yellow-brown in dorsal and lateral surfaces, with blackish grey markings; a lanceolate median mark distinct; ventral surface light yellow-brown. Legs and palp reddish yellow-brown, with distinct annulations. Epigynum with a triangular septum produced into posteriorly extended lobes (Fig. 9); a pair of large spermathecae present as in Fig. 10.

Male

Specimen examined for description. Asahidake, Hokkaido, Japan, 16. VII. 1973 (H. TANAKA).

Measurements (mm). Total length 6.20. Carapace length 3.10, width 2.50. Abdomen length 3.10, width 1.90. Legs and palp as in Table 6.

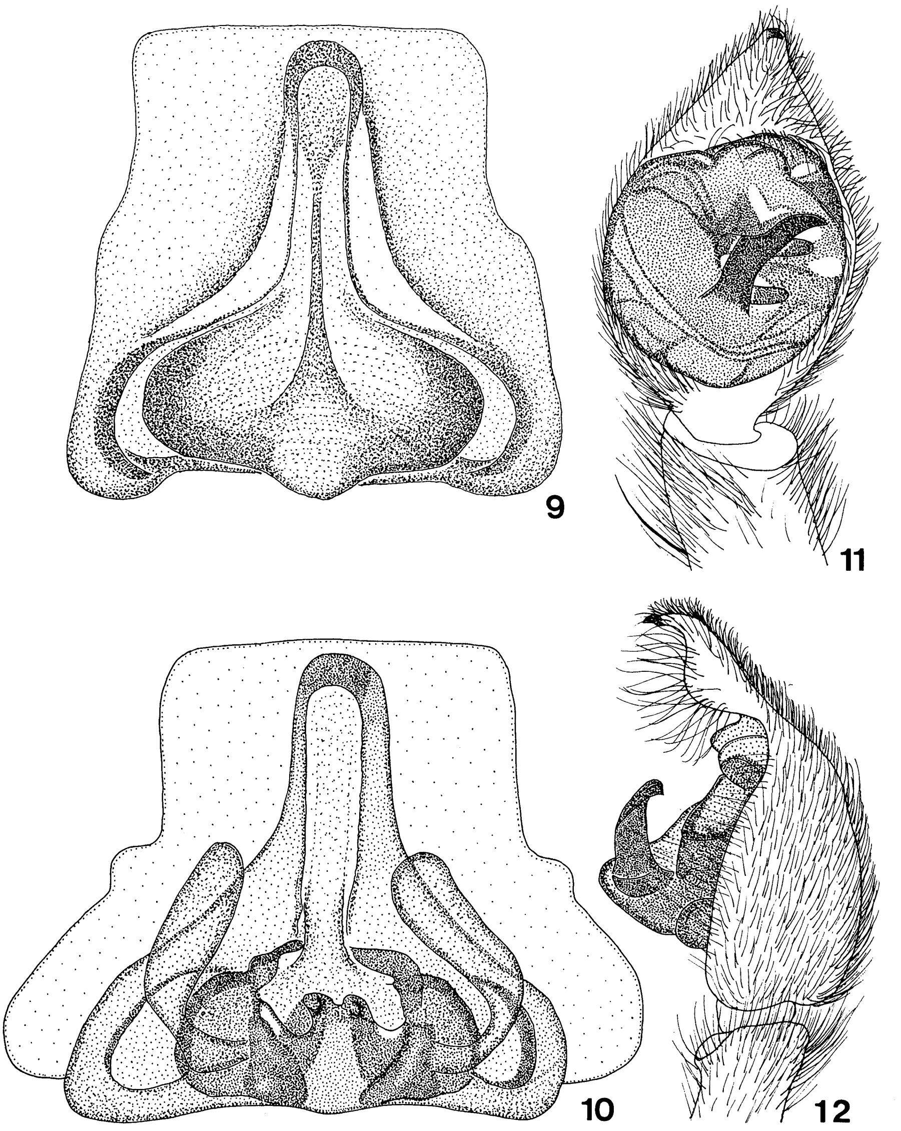
Same as in female with the exception of the palpal tarsal organs (Figs. 11–12) with a narrow C-shaped median apophysis and one claw in the tarsus.

Variation (mm). Total length ♀ 5.85–8.30, ♂ 5.65–6.40. Carapace length ♀ 2.90–3.40, ♂ 2.90–3.25; width ♀ 2.30–2.80, ♂ 2.25–2.50. Abdomen length ♀ 2.95–5.15, ♂ 2.75–3.25; width ♀ 2.05–3.70, ♂ 1.75–2.00. In general, male specimens are darker than females.

Materials examined. Hokkaido: — 1♀, Shiretoko-toge, Shari, 23. VII. 1991

Table 6. Length of legs and palp of 1 ♂ of *Pardosa paramushirensis* (in mm).

Leg	Femur	Patella and tibia	Metatarsus	Tarsus	Total
I	2.40	3.30	2.30	1.50	9.50
II	2.50	3.00	2.30	1.40	9.20
III	2.30	2.80	2.50	1.30	8.90
IV	3.00	3.60	3.80	1.80	12.20
Palp	1.40	1.20	—	1.20	3.80



Figs. 9–12. *Pardosa paramushirensis*. 9, Epigynum (ventral view). 10, Epigynum (dorsal view). 11, Male palp (ventral view). 12, Male palp (retrolateral view).

(T. KAMURA); 1♂, Asahidake, 8. VII. 1958 (Y. HIRASHIMA); 2♀, same locality, 19. VII. 1984 (H. UBUKATA); 1♀, Daisetsu, 5. IV. 1960 (R. NAKAJO); 2♀, Kurodake, 21. VII. 1962 (Y. MIYATAKE); 3♀, 1♂, same locality, 19. VI. 1978 (N. YASUDA); 3♀, 1♂, Kumonodaira, 16. VII. 1980 (N. YASUDA); 11♀, Hirayama, 8. VIII. 1980 (N. YASUDA); 1♀, Akadake, I. VIII. 1984 (N. YASUDA); 1♀, Matsuuradake, 29.

VII. 1962 (T. Akiyama); 1♀, same locality, 7. VII. 1970 (Y. Nishikawa); 1♀, Omiyasan, Kita-hidaka, 9. IX. 1972 (M. Suwa); 5♂, Meakandake, 30. VI. 1982 (Y. Nasu); 3♀, 3♂, Tokachidake, 7. VIII. 1991 (N. Yasuda); 5♀, 5♂, Youteizan, 29. VII. 1989 (N. Yasuda). Honshu: — 2♀, Iwatesan, Iwate Pref., 28. IX. 1984 (N. Tsurusaki); 1♀, Chausudake, Nasu-cho, Tochigi Pref., 23. VIII. 1968 (H. Saito); 1♀, 1♂, Nikko, Nikko-city, Tochigi Pref., 14–16. VII. 1976 (H. Saito); 2♀, Sanbonyaridake, Kuroiso-city, Tochigi Pref., 31. VIII. 1982 (N. Tsurusaki); 1♀, Kusatsu-shirane, Gunma Pref., 13. VIII. 1979 (A. Tanikawa); 1♀, 1♂, Oze, Tone-gun, Gunma Pref., 3. VIII. 1988 (T. Yamano); 12♀, 1♂, Nakayama-touge, Nagano Pref., 28. VII. 1972 (H. Tanaka); 4♂, Norikuradake, Nagano Pref., 13–25. VIII. 1972 (M. Hasegawa); 8♀, same locality, 30. VIII. 1973 (M. Hasegawa); 2♀, 1♂, same locality, 5. IX. 1973 (M. Hasegawa); 4♀, same locality, 13. IX. 1973 (M. Hasegawa); 1♂, Hodakadake, Azumi-gun, Nagano Pref., 7. VIII. 1991 (T. Yamano); 1♀, Yuo-dake, Nagano Pref., 15. VIII. 1973 (H. Kuroko).

Distribution. Japan (Hokkaido and Honshu).

Biological notes. This species is found in coniferous forests on mountainous districts (about 2,000 meter altitudes). Mature spiders are found from July to mid-September. Formation of egg sacs is found in July. The number of eggs is 50 in one egg sac on the average.

Remarks. This species is allied to *P. sordidata* (Thorell) from Europe, but is distinguished from the latter by the female septum with basal lobes, which are not produced in *sordidata*, and by the male palp with the narrower, C-shaped median apophysis.

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摘　　要

日本から得られた *Pardosa* 属，*paludicola* 種群に含まれる3種の再記載を行った．それら3種は，*Pardosa astrigera* L. Koch（ウヅキコモリグモ），*P. suwai* Tanaka（ヌマチコモリグモ）および *P. paramushirensis* Nakatsudi（タカネコモリグモ）であり，これら3種の検索表をつけた．

本論文において，初めて，Dönitz と Strand (1906) によって発表された，*Tarentula phila* と *Lycosa cinereofusca*, および Strand (1916) によって発表された，*Tarentula sagibia*, 更に Saito (1939) による *Pirata aomorensis* を *Pardosa astrigera* のシノニムとして扱った．

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